



# Fleet Public Health

Navy Environmental Health Center

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Pearl Harbor, HI

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## Ross River Virus and Tandem Thrust 2001

Ross River Fever is by far the most common and most widespread indigenous arbovirus disease in Australia; however, it has been widely recognized only in recent years. The most common clinical symptoms are fever, rash and polyarthrititis. The publicity accompanying recent epidemics has created alarming public misconceptions, including confusion with encephalitis and with the more serious rheumatic diseases. The disease is neither fatal nor permanently disabling, but it can cause considerable distress and also become an economic burden for the individual and the community.

The causative agent, Ross River Virus (RRV), is known to be transmitted only by mosquitoes. The major vectors are *Culex annulirostris* for the inland regions, *Aedes vigilax* on the eastern coast down to New South Wales, and *A. camptorhynchus* on the southern mainland coast through Victoria. The virus has also been isolated from numerous other mosquito species. It is probably sustained by primary reservoirs in native animals, and possibly by vertical transmission in mosquitoes. Other animals might serve as secondary sources of mosquito infection in epidemic conditions.

During Tandem Thrust 2001 (TT-01) at Shoal Water Bay

Training Area (SWBTA) in Queensland, Australia, two of the PM-MMART components that were exercised were microbiology, specifically RRV-ELISA detection (team members from NEPMU-6), and entomology (team members from Navy Disease Vector Ecology and Control Center [NDVECC] Bangor). Both components of the PM-MMART worked hand-in-hand in looking for vectors of Ross River Virus throughout SWBTA and in analyzing clinical samples for the presence of the agent, determined by the presence of specific antibodies. Enzyme-Linked Immunosorbent Assay (ELISA) testing included assays to detect IgM, IgG, and Total Antibody (TAB). ELISA training took place at the Arbovirus Department located at the Institute of Clinical Pathology & Medical Research, Westmead Hospital, near Sydney.

During the deployment 90 samples were analyzed for the presence of RRV. Samples were received from both U.S.

forces (Med Det CSSD-73 Okinawa) and from the Australian 1<sup>st</sup> Support Battalion Hospital. Our deployable PM-MMART laboratory was able to diagnose two cases with RRV during the month-long deployment; both were Australian soldiers. During Exercise Tandem Thrust '97 (TT-97), there were seven cases



Personnel working on a uniform treatment project in Shoal Water Bay Training Area.

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Navy Environmental and Preventive Medicine

Unit No. 2, Norfolk, VA – Unit No. 5, San Diego, CA – Unit No. 6, Pearl Harbor, HI – Unit No. 7, Sigonella, IT

## From the S.E.L.



The Navy has undergone many changes in personnel management. World threats, politics and the economics all influence the direction of change. Every so often we get a new compass and rudder. The build-up and draw down of the navy fleet in the 1980's caused the Navy to shore up some programs since anticipated platforms never materialized and personnel assets exceeded available billets. Downsizing opened the doors to early exit incentives and transitional assistance programs that prepared individuals for the civilian job market, minimizing casualties. The Transitional Assistance Program (TAP) class turned out to be such a success that it continued to be funded. Today, a strong economy and competition for talent has developed into a concept of "Train and Retain." The economics of competition has resulted in additional benefits and the drive in Quality of Life (QOL) initiatives we are seeing today.

We have come a long way from replacing that small bottle called "white out" with a PC on virtually every desk. When I began a naval career the typical operational medical department had a couple of typewriters and a word processor. The dreaded multi-copy OCR document was our means of official communication. Many played "Taps" for the "OCR ball" when it was put to rest and replaced with modern technology. The vibration from the carriage return alone was enough to skew or misalign the document and cause a rejection.

Today, a large part of retention hinges on providing a progressive work environment, family support services and the pay/health benefits to support the need of a modern navy family. Some positive improvements recently included TRICARE reform, retirement health benefits, full BAH/COLA entitlements for single E4's assigned to afloat units, a Thrift Savings Plan, education benefit expansion, internet access afloat and ashore, ATM's and phones at sea, on-line learning centers, College at Sea de-

gree programs, modernized recreational facilities, new housing construction, basic pay increases, retirement pay reform for those entering after 1986, and numerous workload reduction initiatives to allow transformation from a four to eight day duty section afloat. These progressive changes certainly enhance a naval career. Keeping up to date with all the ongoing changes would be quite a time-consuming effort if you didn't know where to go. Even worse, didn't know the benefits existed. Take the time to review these frequently updated web sites on professional development and benefits. Help is only a link away.

HMC(SW/FMF/AW) J. A. Schloegl



### Advancement

<http://www.advancement.cnet.navy.mil>

### Career

<http://www.staynavy.navy.mil>

### DOD Retirement / Benefits

<http://www.dodtrasnportal.org>

### GMT

<http://www.cnet.navy.mil/gmt.html>

### Military Assistance

<http://dticaw.dtic.mil/mapsite/>

### Navy College

[www.navycollege.navy.mil](http://www.navycollege.navy.mil)

### Navy E Learning

<http://www.navylearning.navy.mil>

### Pay and Benefits

<http://pay2000.dtic.mil>

### Retirement Job Sources/Resumes

<http://www.JobOptions.com>

### Selection Board Preparation

<http://www.Bupers.navy.mil/Selectbd/sbprep.html>

### Tricare Support

<http://tricare.osd.mil>

## Fleet Public Health

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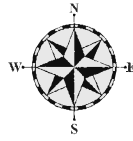
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## From the OIC



One of the great adventures while serving in the military is transferring from one duty station to the next. Few jobs in the civilian sector mandate change of such magnitude with such regularity and expectation. Despite the drawbacks of relocating your family and all your worldly belongings to who-knows-where every two or three years, there is also an upside and many good things may come of it.

How many times have we heard a new arrival to a command say something to the effect of, "Well, that's not how we did it at my last job"? Or how many times have we been in the situation to say it ourselves? For better or worse, it is human nature to make observations and comparisons during the transition from one job to another. This time can be an excellent opportunity to learn, if we are astute enough to recognize and take advantage of it.

When personnel arrive at a new job they bring with them a unique set of skills, training, and experiences, as well as a new, and as yet, unspoiled objectivity to the job and entire organization. This finite period of objectivity presents the greatest opportunity for constructive contrasts and comparisons - the time for cognizant thought and choices as to what is good and productive and what presents an opportunity for improvement. Of course there are always valuable instructions, policies and other guidelines that provide the structure to any job. But adapting to a new job is more than simply being in compliance with pre-existing direction from higher authority. It is the essence of how one adopts and personalizes a new position. It will not take long until a new arrival becomes absorbed into the organizational mainstream and loses that fleeting objectivity.

It is not my intention to categorize this objectivity phenomenon as a good or not-so-good thing. It is a simple observation and is left up to each individual to decide its relative merits, if any. However, it does provide a good basis from which to share some personal observations and comments. I just recently transitioned from the distinctive, if not dubious, "POINC (prospective officer in charge) to "OINC" (more commonly known as OIC) here at NEP-MU6.

These are challenging times for all of us in the Preventive Health business. Unlike our funding, in the area of force protection there is no shortage of work. The scope of our responsibilities is more diverse now than it has been at any other time and is taking us into areas we would not have anticipated ten or fifteen years ago. As I step into this position and look around to assess the current status of our combined preventive medicine forces and the direction we

are headed, I see great things as a direct result of our planning and efforts, with the potential for even better things to come.

In the business of preservation of good health, recognizing and appreciating the payoffs for all our work and monies spent is not always easy. In short, it is tough to justify our existence at times to those wanting to know what we do. So, as a new OIC, here are a few of my observations that you can all point to with pride as shining examples of how we get the most "bang for our buck."

Although its mission is far from over, there is still a large multinational force active in East Timor. This force will likely continue to maintain a presence there for some time to come. The final morbidity statistics on United States (US) personnel (both civilian and military) who spent time in East Timor have yet to be fully compiled for analysis. But from the medical information currently available on the various forces that served there, one fact stands out above all others. It is an obvious comparison that points directly to the tremendous success of all the work that was done, and continues to be done, by the US preventive medicine specialists deployed to East Timor. Unlike the experience of forces from some of the other nations involved in the peace keeping mission who suffered new cases of malaria that numbered in the hundreds, the United States forces have to date had only three new cases of malaria as a result of serving in East Timor. Nothing can speak more clearly of the direct benefits of a properly planned and implemented force health protection strategy than results such as this. The contributions on the part of the preventive medicine specialists, as well compliance on the part of each individual there, may not have been easy or convenient in lieu of local circumstances - let alone the documentation of such compliance. But there is no arguing with the results: the savings in both dollars and human suffering - which are impossible to calculate.

I have observed an appreciation and understanding on the part of our customers of the importance of the preventive services and courses we provide them. This has been made clear to me through the increasing demand for courses we all teach. In addition to filling regularly scheduled courses, we are frequently asked to conduct additional classes to accommodate the overflow of persons asking for specific training. I think it is a good indicator of the importance and quality of these services when the students come to us to ask for even more training and learning opportunities instead of less. I suspect this is similar to an increase in demand being experienced by all our fellow training sites.

I have observed that the quality of the people who are in this business, both military and civilian, is outstanding. I have had the rare opportunity of being approached, on more than one occasion, by several of our highly valuable civilian employees who have asked to be allowed to do more at

*(Continued on page 4)*

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## **Preventive Medicine Representative (PMR) Training at NEPMU-6**

**I**n November of 2000, the NEPMU6 Environmental Health Department coordinated a unit-wide effort to develop and update 25 separate Preventive Medicine and Industrial Hygiene topics. They subsequently conducted NEPMU6's "First Ever" PMR Class for both Fleet Marine Force and "blue side" Corpsmen. Corpsmen from Marine Corps Base Hawaii-Kaneohe came from the Third Marine Regiment, Combat Service Support Group 3 (CSSG-3), 1st Marine Air Wing, Aviation Support Element, (1st MAW ASE), the USS Russell (DDG 59) and Mobile Diving Salvage Unit 1 (MDSU-1), Pearl Harbor. Twenty-eight students attended this highly successful three-day class. In August of 2001 we held the second iteration of this course here at the unit.

Designed primarily for Fleet Marine Force Corpsmen assigned to the Marines, the course has been revised and a fourth day has been added. The course now contains 21 classes and 6 practical exercises. The knowledge students gain in this class is invaluable in helping implement public health programs for the over 5000 Marines assigned to Marine Corps Base Hawaii. The skills they learn in the practical exercises and lessons help them to keep their units prepared and protected from the threat of communicable and vector-borne disease that they will encounter during their worldwide deployments.

This course can be tailored to the needs of the request-

ing command or individuals. It can last from one to four days, depending on topics requested. Topics include: Introduction to Force Health Protection; Malaria Control Program; Vector Borne Diseases; STD Part One: Diseases Treatments; STD Part Two: Contact Interviewing (Practical Exercise); TB Part One: The Disease & TB Control Program Requirements; TB Part Two: Practical Exercises Proper Administration and Interpretation of a PPD; Immunizations; Introduction to Disease Investigating; Medical Event Reporting Database Demonstration; Shipboard Automated Medical System (SAMS); Field Galley Set-up and Waste Disposal; Safe Food Preparation and Serving; Cleaning and Sanitizing Dishware; Utensils and FS Equipment; Habitability Inspections (Practical Exercise); Poisonous Marine Life; Poisonous Land Creatures and Plants; Intro to Microbiology; Hazardous Materials (HAZMAT); Overview & Management of Medical Waste; Heat Injuries; Marine Corps Heat Stress Program; Cold Injuries Prevention; Identification and Treatment; Hearing Conservation; Asbestos Medical Surveillance Program; Preventive Medicine Programs Management. For more information, contact the NEPMU6 Environmental Health Department at [eh@nepmu6.med.navy.mil](mailto:eh@nepmu6.med.navy.mil) or visit our web site at <http://nepmu6.med.navy.mil> (note, there is no "www" in this address).

**HM2(SW) Derek Boyd  
Preventive Medicine Technician**

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### **From the OIC Continued**

work and not less. They have asked to be considered when assigning new and diverse work taskings even if it is outside of, or in addition to, their normally assigned duties. This is a clear sign to me of the commitment and dedication on the part of our highly skilled civilian professionals, who often find themselves fettered by the rules and regulations of the system in which they work. This system often limits both their opportunity for job diversity and the amount of time they can choose to be at work. These are dedicated professionals, just like those in uniform, who believe that what they do makes a difference, and they are asking to be able to increase their contribution. For those dedicated to the prevention of illness in populations entrusted to them, the desire to always do more vice less is a trait I have found to come naturally in all these caring professionals.

Not long after arriving here in Hawaii I had the pleasant

opportunity to be reminded of the exceptionally rich history and valuable contribution associated with Navy Preventive Medicine since its inception. I was also reminded that every member of our diverse Navy Preventive Medicine team should be proud of all their efforts that go into keeping those nameless and faceless Sailors and Marines in the best state of health possible. For me this was all the result of a chance meeting of one of our own from an era past. I had the good fortune to meet and speak with HMCS Stanley B. Snodgrass, USN (RET) here in my office. Senior Chief Snodgrass retired after twenty years of active duty in the United States Navy in 1963. He started out as a Pharmacist's Mate and made the conversion to Hospital Corpsman in 1950. HMCS Snodgrass served most of his twenty years as a Preventive Medicine Technician (PMT). In February 1947, then PM2 Snodgrass was assigned as a PMT to the original group of twenty-five Navy personnel to stand up the brand new U.S. Naval Medical Research

*(Continued on page 5)*

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## **Ross River Virus and Tandem Thrust 2001 Continued**

(Continued from page 1)

reported by the Navy's Forward Deployable Laboratory (FDL). Climatic conditions during TT-01 were different from those in TT-97. Lower temperatures during this last deployment possibly influenced the amount of Ross River Virus vectors in the SWBTA. Temperatures during the month of May would range from about 35-45 °F during night hours. Regardless of lower temperatures during this year's deployment we were able to show the presence of RRV at SWBTA and more importantly showed that RRV is still a serious concern for future deployments to Australia.

The entomology section had three objectives during TT-01: survey for potential disease vectors, determine if the mosquito attractant, octenol, could improve trapping efficiency, and evaluate the effectiveness of permethrin treated battle dress uniforms (BDUs) as a barrier to mosquito feeding. The mosquito survey collected a total of 1,764 mosquitoes from 10 different species. Fully 84% of mosquitoes captured were the RRV vector *A. vigilax*. The addition of the mosquito attractant octenol to the standard carbon dioxide baited mosquito traps increased trapping efficiency by 44% for all mosquito species and 40% for *A. vigilax*. Permethrin treated BDUs were highly effective in preventing mosquito feeding. The material of the BDU was a physical barrier to blood-seeking mosquitoes at Camp

Growl, Glen Airfield, and Freshwater Beach within the SWBTA. Permethrin treatment of the uniform decreased mosquito probing time on the uniform by 78% (from 20.3 to 4.5 sec. on untreated and treated uniforms, respectively). Uniforms were washed after treatment to determine if permethrin washed off. A uniform treated with permethrin and subsequently washed 20 times in cold water was still able to reduce mosquito probing time by 43% (average probing time, 11.6 sec).

Arbovirus carrying mosquitoes are present in the SWBTA and must be treated with respect by forces deployed there. Forces from the United States are especially at risk. They are not likely to have prior exposure to Australian diseases and, therefore, represent a susceptible population. However, the use of mosquito attractants for better survey results will improve risk assessment and make for better force protection recommendations. Additionally, the use of permethrin treated BDUs along with DEET cream should be an adequate barrier to mosquito feeding. Finally, the ability to accurately diagnose RRV infection with ELISA detection will allow for the proper and rapid treatment of patients who become infected with this disease.

**LCDR Carlos LeBron, Ph.D**

**LT Robert Miller, Ph.D**

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## **From the OIC Continued**

(Continued from page 4)

Unit-3 (NAMRU-3) in Cairo, Egypt. During these post WWII years Egypt suffered its first cholera epidemic in 45 years. In September of 1947 the Egyptian Ministry of Health recruited the services of NAMRU-3 to help them combat this disease. It was during this time that PM2 Snodgrass was officially baptized into the profession of Preventive Medicine. Through the joint cooperation of the staff of NAMRU-3 and the Egyptian Ministry of Health, the cholera epidemic, which had been spreading at the rate of a thousand new cases per day, was controlled within six weeks. NAMRU-3 has been going strong ever since and HMCS Snodgrass is now writing a book describing his recollections of the event entitled, Bugchasers of Egypt. (Anyone with personal accounts or other information relat-

ing to the 1947 cholera epidemic in Egypt is welcome to be put in contact with HMCS Snodgrass through this office).

None of us know when we will be faced with our own personal "cholera epidemic" or other such test of our professional readiness. But based on the high level of professional expertise and dedication I have observed throughout all of the Navy Preventive Medicine community, I am confident that we will prevail when called to action. Each member can be rightly proud of the long Naval tradition they are helping to continue.

**Captain J. E. Longstaff, MC, USN  
OIC**

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## Tandem Thrust 01: A Day of Prevention at Shoalwater Bay

**A**nother damp chilly morning. A quick (but hearty) breakfast, and we're ready for another day in "the bush." The Preventive Medicine team from NEPMU6, augmented with a research team from Navy Disease Vector Ecology and Control Center Bangor (NDVECC Bangor), reports for morning orders with their temporary command, the Environmental Health Platoon of the 1st Health Support Battalion, Royal Australian Army. The American and Australian components of this team complement each other well: the Aussies having excellent equipment and extensive training in general preventive medicine applications, as well as advanced water testing capability; and the Americans having high level expertise in applied entomology, epidemiology and microbiology. Together the team is fully capable of handling any preventive medicine situation.

The priorities are the same today as every other day: potable water monitoring, vector monitoring/control, and health/habitability inspections. A senior Preventive Medicine Technician (PMT) from NEPMU6 will lead the water team, the PMT from NDVECC will lead the entomology team, and an Australian 1<sup>st</sup> Lieutenant (pronounced with an "F") will lead the inspection team. These duties are switched around often to give everyone maximum experience in each area. The research entomologist from DVECC will continue his preparations for testing the efficacy of permethrin-treated uniforms after multiple washings. The epidemiologist from NEPMU6 will continue the bed net survey and fine tune the food-borne illness contingency plan. The microbiologist will stand-by with the unique capability of diagnosing Ross River Virus in the field.

The dusty ride to the primary water point takes the team about half an hour, passing several Military Police check-points, mobs of roos, and roving bands of emus. The Australian operated treatment plant draws dark stale water from a tree-lined billabong and runs it through a truck-mounted flocculation/sand filtration system, adding chlorine and other chemicals as necessary to adjust pH. The now potable (if not slightly greenish tinged) water is then pumped into onion bladders to await transportation via trucks to the various camps. Earlier problems with excessive turbidity have been resolved, so samples of raw and product water are collected for routine monitoring purposes only. The team collects additional samples at a second Australian water point and an adjacent US Marine re-

verse osmosis unit, and returns the samples to the unit for analysis.

Meanwhile, the entomology team has returned to camp with the previous night's catch. The low yield of "mozzies" (mosquitoes) is a good indication that the previous evening's spraying with the Australians' trailer-mounted ultra-low volume fogger was effective. Earlier trapping had shown increasing numbers of the "mozzies" that carry Ross River Virus following a heavy rain. This prompted the NEPMU6 entomologist to initiate a spraying plan for the camps that was executed flawlessly by team members from both countries. Today, no spraying will be necessary, but the ento team must still complete the tedious task of identifying each "mozzie" caught in the traps.

The risk of food-borne illness (FBI) is extremely high in the field. Reliability of refrigeration and heating equipment is always in question. Food preparation equipment and facilities are always below "restaurant" standards. Personal hygiene and general cleanliness may also become an issue. These and other factors combine to make field kitchen "inspections" vitally important to any deployed force. In the field, this process looks less like a routine inspection and more like a department head meeting. Minimizing the risk of FBI is a collaborative effort involving environmental health, food service, engineering, maintenance and supply personnel. Today, the Australian Environmental Health Officer must follow-up on some previously identified problems in the hospital camp field kitchen. The bulk freezers have broken down, the only available food preparation surfaces are plywood tables, and a significant amount of uncooperative kitchen wastewater has been by-passing the waste sump and creating potential odor/fly/mosquito problems in the mud field behind the kitchen. Several options for resolving these problems were discussed by the environmental health (EH) team the night before, and the most viable ones will be presented to the various parties for implementation.

There are no classes scheduled this afternoon. On other days, classes have been provided on subjects like water chemistry, calibrating spraying equipment, performing tick drags, and the care and feeding of the Australian Army Styre's rifle, among others. Today there is time to fill in reports, relax with a "brew" (don't get excited, that's just coffee Down Under), and enjoy another great dinner from the field kitchen before evening orders.

Yes, another good day of prevention at Shoalwater Bay. None of the fires can ever really be put out, but we know where they are and we have them contained.

**Loren Locke, LT, MSC, USN  
Environmental Health Department**



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## NEPMU-6 Industrial Hygiene at Submarine Force Pacific Fleet

**N**EPMU-6 has an Industrial Hygiene Officer performing additional duty (ADDU) to the staff of RADM John B. Padgett III, Commander, Submarine Force Pacific Fleet (COMSUBPAC). CDR Jerry A. Formisano Jr, MSC, USN is the Safety and Environmental Director for COMSUBPAC.

Regionalization in 1998 transformed the Pearl Harbor Naval Complex, with many services previously provided by Commander, Submarine Base Pearl now being covered by Commander, Navy Region Hawaii. The re-distribution of Safety, Environmental and engineering personnel has made coordinated provision of services to the submarines at Pearl Harbor an on-going cooperative effort among all the safety and health professionals at Pearl Harbor.

A great example of this has been the team effort to upgrade and repair the shore power booms, located at the piers providing support to arriving and departing submarines. The booms were installed several years ago with the intent of making transfer of the heavy shore power cables easier for the crews, and to save the cost of having a PWC crane at pier side for every arrival and departure. The ship-to-shore power cables are connected to electric power at the pier, allowing submarines to recharge batteries and take certain equipment off-line for maintenance or repair. A near-mishap several years ago involving the winch mecha-

nism on the booms led to the removal of weight-bearing equipment from the booms (weight bearing equipment meaning winches and chain falls for hoisting the cables). Sailors continued to use the booms, but placed the cables by hand using working parties, an inherently unsafe practice due to the possibility of back strain and pinched fingers, as well as other injuries.

The Pearl Harbor team, consisting of COMSUBPAC Force Safety and Force Electrician, COMNAVREG Facilities, PWC welding shop, and NAVFAC engineers came up with a design to place rollers on the outside of the boom, allowing easy access for placing the shore power cables and easy movement on the rollers so crewmembers can plug them in. The first boom has been modified and is in the trial stage. Crew feedback has been positive so far, and some additional improvements have already been made. If the final design is deemed successful, all eighteen shore power booms now in place as well as four planned for the pier under construction will be modified as well.

This project is an outstanding example of a team of experienced safety and engineering professionals pooling their knowledge and experience. The results will have a direct impact on the submarine crews, helping the fleet sailors with something that impacts them directly in their day-to-day work and eliminating a major safety hazard.

CDR J. A. Formisano, Jr, MSC, USN  
IHO

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## Upcoming Changes in the Tuberculosis Control Program

**A**BUMED message sent out in March alerted commands regarding the upcoming changes to the Tuberculosis (TB) Control Program. This is a reminder about what to expect to see in the newly updated instruction when it is released.

The most important change is that the Navy will be following the recently updated Centers for Disease Control (CDC) Guidelines for Treatment of Latent Tuberculosis Infection (LTBI). Also, instead of the term "PPD positive," personnel with positive skin tests will now be referred to as having "Latent TB Infection" or LTBI. The PPD test is now referred to as the tuberculosis skin test (TST).

In the past the Navy has generally treated personnel with a newly (+)TST with INH for six months. According to the new guidelines the **standard therapy will now be 9 months** for the preferred treatment vice the 6-month ther-

apy that was routinely advised in the past. Other treatment regimens can be followed per the BUMEDINST 6224.8 if the standard therapy cannot be completed for some reason. Many commands on the advice of local preventive medicine physicians, local infectious disease consultants, and pulmonary specialists are already implementing the 9-month therapy plan.

Remember that it continues to be extremely important to educate the people who have LTBI on why it is important to complete their course of INH therapy unless medically contraindicated. Successful completion of antibiotic therapy significantly decreases the chance that they will go on to develop clinical tuberculosis. Also keep in mind that "to test is to treat." Until the update to the instruction comes out, you can review the new national guidelines from the June 9, 2000 MMWR report on "Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection" at: <http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/rr4906a1.htm>

HM2 (SW) Michele Packer  
Threat Assessment Department

## Mosquito Vector Characteristics

I am indebted to CDR W.W. Kanour, MSC, USN, Entomologist, MARFORPAC for the following expert discussion.

### Dengue Vectors -

Two major mosquito species transmit dengue fever:

*Aedes aegypti*  
*Aedes albopictus*

Because it is much more likely to live in close proximity with people, *Aedes aegypti* is the more important vector of the two. Both species will come inside dwellings if given the opportunity.

### Habitat -

*Ae. albopictus* is generally found in the interface between vegetation and cleared areas. This species will approach when prey is detected (senses body heat, exhaled CO<sub>2</sub>) as do most mosquitoes.

For breeding purposes, *Ae. albopictus* prefers to use "natural" containers such as hollow tree trunks, cut bamboo, coconut shells, and water-holding plants. However, it will breed in artificial containers such as tires and bird-baths, especially in dark or protected areas.

*Ae. aegypti* prefers artificial breeding sites including refuse containers, planters that hold free-standing water, and ornamental/decorative pieces if they have depressions that can trap rain water.

### Range -

Both species are active during the day, but neither mosquito has a very extensive flight range.

*Ae. aegypti*: May migrate up to 50 meters from where it was "hatched."

*Ae. albopictus*: Has a somewhat longer flight range, approximately 100 meters.

### Biting habits -

*Ae. aegypti*: Feeding is concentrated during the afternoon hours from about noon to 1600 but it may bite earlier and later during the daylight hours depending on climatic conditions.

*Ae. albopictus*: Is an aggressive, annoying biter that will feed throughout the daylight hours.

These mosquitoes rarely feed after sunset.

## Dengue in the Pacific

Dengue fever is an acute viral disease transmitted by mosquitoes. The disease is found worldwide in tropical and subtropical countries and periodically occurs in epidemic proportions (Figure 1). During this past year and continuing at the time of this writing (August 2001), there has been an explosion of dengue fever activity throughout the Asia-Pacific AOR. Some examples:

- The Disease Occurrence-Worldwide bulletin of 02 Aug states that over 5,000 cases of dengue fever, including 50 deaths, have been reported from the Republic of the Philippines this year. Dengue fever is now firmly established in the Philippines reflecting a cyclic resurgence in cases seen every two to three years.

- The National Anti-Malaria Center of Cambodia states that dengue fever killed 72 people and caused illness in over 2,500 others during the period from January to June.

- A report by the Thailand Public Health Ministry noted 20,400 cases of dengue fever nationwide for the first four months of this year, a 25% increase over the 16,267 cases reported for the same period in 2000. The upsurge is attributed to heavy rain, warmer weather, and an influx of illegal aliens.

- Singapore's Environment Ministry said that 892 cases of dengue were reported in the first six months of this year as compared to 291 cases last year.

- In Myanmar, a dengue fever epidemic was reported as "spiraling out of control" in the area of Mawlamyaing.

- This past May, Vietnam health officials warned of a possible epidemic of dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS) as more than 5,000 cases of dengue were reported since the beginning of the year.

To paraphrase a preventive medicine colleague, this is a great year to be emphasizing personal protective measures against vector-borne diseases. That tube of DEET lotion has gone way up in real value!

### The Disease

There are four dengue serotypes which cause disease (DEN-1, -2, -3, and -4). These serotypes, while closely related, are antigenically distinct and do not confer cross-immunity, so it is possible for a person to have four different dengue infections in a lifetime. If at least two of the dengue serotypes are present (presumably the situation now in Vietnam) then sequential infections with differing serotypes increases the risk for more serious manifestations of the disease, DHF/DSS. More on this later.

After an incubation period of 3-14 days, the clinical presentation of "classic" dengue includes high fever, retro-orbital headache,

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chills, backache, malaise, musculoskeletal pain, and a transient macular rash. This array of symptoms has given rise to the name "break bone" fever. Thrombocytopenia, leukopenia and elevated hepatic enzymes are commonly seen. Minor bleeding phenomena (petechiae, epistaxis, and gum bleeding) may occur during the febrile period. Duration of illness is usually 5-7 days, but recovery may be associated with prolonged fatigue and depression.

An aid to the diagnosis of dengue is demonstration of capillary fragility using the "tourniquet test." This involves inflating a blood pressure cuff around the upper arm to a pressure midway between diastolic and systolic for five minutes. Petechiae are counted in a previously marked area of the inner forearm, 2.5 cm in diameter and about 4 cm below the crease of the elbow. A number between 10-20 is marginal, more than 20 petechiae are abnormal. Laboratory confirmation is by a fourfold rise in IgG ELISA titers between acute and convalescent samples drawn >14 days apart. Single, positive IgM titers are presumptive evidence of recent infections. Treatment of uncomplicated dengue is symptomatic, e.g., Tylenol (not aspirin), bed rest and oral (rarely IV) fluids.

### **The Epidemic Continues**

Earlier this year, an outbreak began in French Polynesia which, in particular, affected the tourist islands of Tahiti and Bora Bora. While it is now showing signs of easing, as of August 2, an estimated 25,900 cases (707 hospitalized) have occurred. Four children have died.

Two time zones almost due west of French Polynesia is the island group comprising American and (Western) Samoa. In July, NEPMU6 was contacted by the United States Coast Guard's Marine Safety Detachment in Pago Pago, American Samoa. The small contingent of active duty members and their families was becoming aware of a large number of persons presenting to the local medical center with dengue-like illness. By the end of July, there were 66 officially reported cases and one death.

NEPMU6, in collaboration with experts in entomology and infectious disease from MARFORPAC and Tripler Army Medical Center, provided the USCG forces with educational information and medical recommendations regarding clinical aspects of the disease, vector control, and strategies for personnel protection. Since the initial episode of classic dengue tends to be an acute self-limited illness, the Coast Guard population was not advised to evacuate the island. However, one person unexpectedly reported a prior history of dengue fever. This individual was now known to be at risk for developing dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS).

### **Dengue Hemorrhagic Fever/Dengue Shock Syndrome**

The following immunopathologic mechanism for DHF/DSS is postulated: Individuals first acquire circulating antibodies to one of the four dengue serotypes either actively (from an earlier infection), or passively (prenatally). If infection by a different dengue serotype then occurs, the existing heterologous antibodies can enhance the viral infection of cells, causing a more severe disease. Al-

(Continued on page 10)

## **Methods of Control**

### **Vector Control -**

The most effective way to control the mosquitoes that transmit dengue is larval habitat reduction, i.e., eliminate standing water around the domestic environment.

In addition to residences, areas where people congregate such as workplaces and schools should be examined for potential breeding sites.

If containers (e.g. 55 gal. drums) are being used to collect water, they should be covered. Something as simple as a layer of burlap is sufficient.

Check for collections of water indoors. For example, water-rooted plants in containers, or plant cuttings which have been placed in water. Change the water in such containers at least once and preferably twice a week to break the mosquito breeding cycle.

Again, both species, and especially *Ae. aegypti*, will come indoors if given the opportunity, so it is not sufficient to clean up water collections around dwellings only.

Do not overlook small containers. Small amounts of water, such as in a partially filled soda can or a broken bottle containing one-half inch of water, can be enough to support mosquito larvae. This is particularly important in the tropics where rainfall is plentiful.

Ensure dwellings are screened (windows and doors) and that the integrity of the screening is sound.

### **Personal Protective Measures -**

For the individual traveler or deploying units, personal protective measures against dengue infection are essential. These include limiting outdoor exposure, reducing the area of exposed skin with clothing (e.g. long sleeves), using permethrin-containing insect repellents on clothing, and 33% DEET on skin, and using correctly deployed bednetting which has been pre-treated with permethrin..

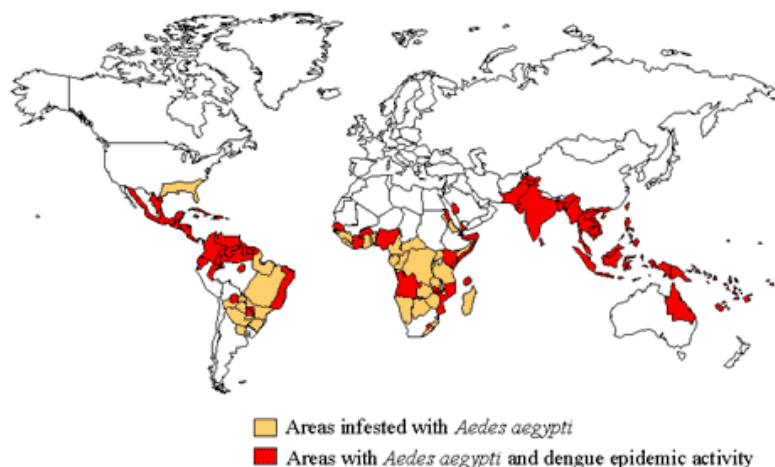
The October 2000 issue of the *Fleet Public Health* bulletin has an excellent article entitled "Personal Protection from Vector-borne Diseases During Military Deployments."

The June 2001 (Vol 17, Issue 9) edition of the University of California, Berkeley "Wellness Letter" discusses insect repellents (including use in children).

I also refer the reader to a definitive review of the topic in the *Journal of Travel Medicine* (Volume 8, Number 3 – May/June 2001 133-138) "Department of Defense Doctrine and Materiel for Protecting Personnel from Biting Arthropods."

Also, travelers who have had an episode of dengue fever should be aware that they are at increased risk of DHF/DSS if they re-enter a dengue-infected area and should seek medical attention if they experience symptoms.

## World Distribution of Dengue - 2000



CDC



The stylets (needle-like structures) and proboscis (elongated mouth) of an *Aedes aegypti* feeding. Dengue viruses are transmitted during the feeding process.

Figure 1.  
World distribution of dengue viruses and their mosquito vector, *Aedes aegypti*, in 2000.

(Continued from page 9)

though 90% of the cases of DHF/DSS occur during secondary infection, the syndrome may also be associated with the primary infection, suggesting that the virulence of the virus strain itself may also be a factor. The syndrome of DHF, which occurs more commonly in children, is characterized by increased capillary permeability and hemostatic derangement. Early in the illness, the clinical picture is identical with classic dengue, but around the time of deferescence, DHF patients enter a second phase of illness.

World Health Organization (WHO) criteria classify DHF into four grades of severity: Grades I and II proceed beyond classic dengue to include thrombocytopenia of < 100,000 cells/mm<sup>3</sup>, plasma leakage and spontaneous bleeding. In Grades III and IV (DSS) patients manifest restlessness, abdominal pain, cold clammy skin, change in mental status, hypotension and ultimately, profound shock. In cases of DHF without shock, patients may be managed with oral rehydration on an outpatient basis. Those with more severe symptoms, or vomiting, may require IV fluids and hospitalization. DHF with shock requires intensive care in the hospital. The case-fatality rate in severe DHF/DSS is high in patients who are not hospitalized and treated promptly, but with good medical management less than 1% of these patients die.

### Imported Dengue in Hawaii

As the epidemic has continued to develop in the Pacific, reports of cases have been received from New Caledonia,

the Cook Islands, and more recently here in Hawaii. Earlier this year, three individuals in Hawaii were confirmed with dengue infections. One case had traveled to Indonesia, while the other two, including a man with dengue hemorrhagic fever, were exposed to dengue in the Philippines. On August 3, 2001 the State of Hawaii Department of Health issued a dengue alert which described five cases of suspected dengue, including one death, in persons returning to Hawaii from American and (Western) Samoa. So far, all of the cases have been imported. There is no evidence of autochthonous dengue (cases originating in the Islands) occurring.

Dengue fever was a significant problem in Hawaii during World War II but was subsequently eradicated. However, the two mosquito species mainly responsible for transmission of dengue are still present. Because of this, there is the possibility of imported dengue cases re-introducing the virus locally. According to NEPMU6 entomologist LCDR(Sel) David Hoel, who is currently conducting mosquito surveillance on the windward side of the island of Oahu:

- *Aedes albopictus* is widespread throughout the Hawaiian Islands. On the windward side of Oahu, which receives high rainfall, this mosquito can be found in high numbers in many places. Landing rates in shaded areas protected from high winds have exceeded 15 counts/minute in some loca-

(Continued on page 11)

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# Project Kaho'olawe: A Worthwhile Restoration of a "Sacred Island"

Last July, HMC(FMF) Gagne and I, along with twenty or so commuting contractors, boarded a helicopter out of Maui en route to the smallest of the eight main Hawaiian islands, Kaho'olawe (*ka ho o la vay*). Equipped with a thermometer, a water testing kit, and a digital camera, Chief and I were embarking to perform an environmental health assessment on an island whose name I had just learned to pronounce (I reported for duty at Pearl Harbor a month prior). Aside from our normal preparation, which included the review of manuals and publications as well as previous assessments, I considered the current situation on Kaho'olawe and its history. Here is a brief synopsis of what I learned . . .

In ancient times, Hawaiians fished, farmed, and lived in coastal and interior settlements across the entire island, which was referred to as "Kanaloa" or "Kohemalamalama." This tiny island was a place where kahuna (Hawaiian shaman) and navigators were trained, and it played an important role in early Pacific migrations. The island is named after the Hawaiian god of the ocean and the foundations of the earth.

Currently, Kaho'olawe is essentially an abandoned island on which the military (US Navy in particular) conducted bombing and target practice for approximately 50 years (since 1941). In 1990, President George Bush directed the Secretary of Defense to discontinue use of the island for bombing and target practice. Since 1993, an extensive ten-year project has been underway to "clean up the island" and return it to the state of Hawaii.

The daily population on this island is approximately 300-320 contractors who work up to twelve hours a day. As many as twenty people stay on the island for eight days at a time. Due to its physical separation from a formal medical facility, Chief Gagne and I also observed the

camp's clinic and ability to treat and transport patients.

To assist with this project, NEPMU6 conducted an environmental health assessment of the Kaho'olawe base camp to evaluate for preventable health hazards. Taking into consideration that it is a temporary remote facility rather than a permanent one, Chief Gagne and I inspected the food service facility, the potable water treatment and distribution system, the gray water treatment system, the composting toilet system, and the general habitability and sanitation of the camp.



*Latrines equipped with ailerons for much needed stabilization during helicopter transport.*

In general, the outcome of our assessment indicated that the camp is remarkably well managed, and that there are no immediate health threats apparent in the camp's infrastructure or operating procedures. Despite

the logistical impediments due to its geographical location, there were no indications of health and safety being compromised. Our few recommendations, such as our offers to provide food management and heat stress training were eagerly accepted by the management. This assessment's benefits such as identifying and bringing to light any potential health and safety hazards are obvious. In addition, this memorable and educational visit to Kaho'olawe has strengthened our communication ties and made evident NEPMU6's commitment to our mission of "providing environmental and preventive medicine support."

**LTJG Richard D. Heridia, MSC, USNR**  
**Environmental Health Officer**

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## **Dengue in the Pacific Continued**

(Continued from page 10)  
tions.

- *Aedes aegypti* is not present in Oahu, but is found in pockets on Hawaii (Big Island), Molokai, and Lanai.

For more details on these vectors see the sidebar "Mosquito Vector Characteristics."

### **Conclusion**

The magnitude of dengue activity reported worldwide

serves to remind us of the importance of anticipating and effectively dealing with this disease threat in military operations where it poses a risk. At the present time, there is no vaccine against dengue, and treatment is symptomatic and supportive. From an individual and force health protection standpoint, personal protection and vector control measures are paramount in controlling the disease. [see the sidebar "Methods of Control"].

**CDR D. Slaten, MC, USN**  
**Epidemiologist**

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# Preparing for an Outing in Southern California

**A**s summer turns into fall, the climate becomes more amiable for a nature hike (better known as humps) and camping, also known as “conducting field operations.” With all of this in mind, the avid hiker and camper - or field corpsman - must be aware of the woodland wonderland creatures hiding in the field.

There are a variety of arthropod- and vertebrate-borne diseases to be wary of. However, there are six diseases that cause significant concern when preparing for a field operation in SOCAL.

## 1. Mosquito-borne Encephalitis

- a. Infectious Agent (I.A.): Saint Louis Encephalitis (SLE) and Western Equine Encephalitis (WEE)
- b. Mode of Transmission (MOD): The bite of an infected mosquito.
  - 1.) SLE: *Culex spp.*
  - 2.) WEE: *Culex tarsalis*
- c. Incubation Period (I. P.): 5-15 days
- d. Signs and Symptoms (S/S):
  - 1.) Most infections are asymptomatic
  - 2.) Febrile headache
  - 3.) Aseptic meningitis
  - 4.) Nonspecific flu-like syndrome
- e. Prevention:
  - 1.) Use deet (33% preparation) on skin and treat uniforms with permethrin
  - 2.) Use mosquito bed nets
  - 3.) Destroy larvae and eliminate breeding places like standing water

2. Malaria: Four Plasmodium parasites infect humans: *P. falciparum*, *P. vivax*, *P. ovale*, and *P. malariae*. The Anophelene vector mosquitoes are common in San Diego County, although reports of locally acquired malaria are rare.

- a. MOD: The bite of an infective Anophelene female mosquito
- b. I. P.:
  - 1.) *P. falciparum*: 9-14 days
  - 2.) *P. vivax*: 12-17 days (up to 12 months)
  - 3.) *P. ovale*: 16-18 days or longer
  - 4.) *P. malariae*: 18-40 days or longer
- c. S/S: Malaise accompanied by fever, which is then followed by shaking chills. After an interval free of fever, the cycle of chills, fever and sweating is repeated, either daily,

every other day or third day.

- d. Prevention: Refer to the prevention methods suggested for Encephalitis.
3. Lyme Disease: Tickborne, spirochetal, zoonotic disease
- a. I. A.: *Borrelia burgdorferi*
  - b. MOD: Western Black Legged Tick (*Ixodes pacificus*)
    - 1.) Female: Brown body, black legs
    - 2.) Male: Dark Brown, black legs
  - c. I. P.: The “erythema migrans” (EM) appear 3-32 days after tick exposure
  - d. S/S/: The EM or distinctive lesion, characteristic to lyme disease, appears as a bull’s eye. A red dot at the immediate site of the bite, surrounded by a blue ring, then alternating red and blue around the site. It is of significant concern when it approaches the size of a dime. The patient may complain of (C/O) myalgia, stiff neck, fever, fatigue, and migratory arthralgias.
  - e. Prevention: Apply deet to the skin and permethrin to uniforms. Antibiotic prophylaxis and/or vaccination are not generally recommended. Report ticks immediately when they are found.
4. Plague:
- a. I. A.: *Yersinia pestis*
  - b. MOD: The bite of an infected flea (*Xenopsylla cheopis*, the oriental rat flea).
  - c. I. P.: 1-7 days in immunized individuals and 1-4 days for primary plague pneumonia
  - d. S/S: Lymphadenitis may develop in those lymph nodes that drain the site of the flea bite.
    - 1.) Fever
    - 2.) Chills
    - 3.) Malaise
    - 4.) Myalgia
    - 5.) Nausea
    - 6.) Prostration
    - 7.) Sore throat
    - 8.) Headache
  - e. Prevention: Ensure food is properly stored and garbage is not readily accessible to wild animals, primarily ground squirrels, while in the field. Avoid campsites near rodent burrows.
5. Hantavirus:
- a. I. A.: Multiple hantaviruses have been identified
  - b. MOD: Infected rodents shed the virus in

(Continued on page 13)

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# Safety Notes from COMSUBPAC Safety Officer

A recent Navy message requested increased awareness of traffic and recreational safety, based on an increase in the number of traffic fatalities that have occurred throughout the Navy in the past few months. All safety points of contact at Command, Squadron and Group level are requested to use all available resources to increase awareness of Traffic Safety and Recreational Safety. For those commands with access to the SIPRNET, select Safety on the Quicklist menu and open the Safety Training folder. There are PowerPoint presentations from both Naval Safety Center and CNET.

The Naval Safety Center website ([www.safetycenter.navy.mil](http://www.safetycenter.navy.mil)) has checklists to use or evaluating the risks associated with driving. Click on Ashore Directorate, Motor Vehicle Division to obtain many valuable tools for supervisors that can help identify problems before accidents or in-

juries happen. There is also a Submarine Safety section that is most highly recommended. Back issues of FLASH are also available at this website.

The most important and best decision to make when driving or enjoying off-duty activities is to not drink alcohol to excess. Know your limits and plan accordingly. If you choose to drink, don't drive or operate boats, jet-skis, or other recreational equipment that can hurt you or others.

All SUBPAC commands should have received a copy of the Submarine Safety Officer Reference CD provided by the NAVOSH Training Center dated January 10, 2001. This CD is important because every NAVOSH safety topic, including Traffic and Recreational safety, are available as PowerPoint presentations.

**CDR J. A. Formisano, Jr, MSC, USN  
IHO**

*(Continued on page 15)*

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## Preparing for an Outing in Southern California continued

*(Continued from page 12)*

their saliva, urine and feces. Infection occurs when dried or fresh materials contaminated by rodent saliva or excreta are disturbed and inhaled as aerosols or are directly introduced into broken skin. Infection has also occurred through the bite of an infected rodent.

- c. I. P.: Approximately 2 days-2 months (typically 2 weeks)
- d. S/S: Fever, myalgias, and GI complaints. Followed by abrupt onset of respiratory distress and hypotension.
- e. Prevention: Make the bivouac site a less habitable place for rodents by setting traps and maintaining sanitation standards established in Chapter 9, P-5010. Disinfect rodent-contaminated areas by spraying with a dilute bleach solution prior to cleaning. Do not sweep; instead use a wet mop.

6. Rabies: An invariably fatal, acute viral encephalomyelitis.

- a. I. A.: Rabies virus, a rhabdovirus of the genus *Lyssavirus*
- b. MOD: The bite of an infected wild animal
- c. I. P.: 3-8 weeks
- d. S/S:
  - 1.) A sense of apprehension
  - 2.) Headache

- 3.) Fever
- 4.) Malaise
- 5.) Hydrophobia
- 6.) Spasms of swallowing muscles
- e. Prevention: Refer to the preventive methods suggested for Hantavirus. Avoid contact with local animals. Cleanse animal bites with soap and consider prophylaxis with rabies immune globulin and vaccine. Consider tetanus prophylaxis and avoid closure with sutures.

The best preventive measure for each of these diseases is to properly educate those participating in the "overnight observation of nature" which might better be referred to as a week or so in the field.

In conclusion, as nature runs her course of progression, making weather more affable for camping, hiking, and field training, be aware of the arthropod and vertebrate borne diseases endemic to the area of operation and plan accordingly for a safe and productive outing.

If there are any questions concerning this health threat information, refer to the Control of Communicable Diseases Manual (CCDM), the CDC's travel information site at [www.cdc.gov/travel/](http://www.cdc.gov/travel/), the Chapter 9, P-5010, the local health department, or your local NEPMU.

**HM3 La Rosa S. Watson  
Threat Assessment Department**

## NEPMU-6 Changes Charge at USS Bowfin Submarine Museum and Park

Captain James E. Longstaff relieved Captain H. James Beecham, III as Officer in Charge, Navy Environmental and Preventive Medicine Unit 6 (NEPMU6), Pearl Harbor, in a traditional change of charge ceremony at the USS Bowfin Submarine Museum & Park on July 12. Captain David M. Sack, Commanding Officer of Navy Environmental Health Center, NEPMU6's parent command, was the keynote speaker. Guests included staff, family, and friends as well as PACOM Surgeon RADM Wright.

Captain Beecham took charge of NEPMU6 in August 1998 after serving as Head of the Unit's Tropical Medicine Department. NEPMU6's mission is to provide specialized consultation, advice, technical services, and training in deployed and non-deployed settings regarding matters of preventive medicine, occupational health, environmental health, and health promotion to the Navy and Marine Corps in its assigned area of responsibility (AOR). NEPMU6 aims to ensure their customers receive quick and responsive service related to various preventive medicine capabilities in the most efficient means possible. They are responsible for ensuring that preventive medicine policies designed to ensure the health and welfare of our Sailors and Marines are adhered to. This involves making the staff accessible and visible on ships and in the field.

NEPMU6 staff provides preventive medicine support through forward deployed operations, exercises, local operations, and humanitarian missions in areas such as Australia, Russia, Thailand, East Timor, Cambodia, Singapore, Indonesia, Samoa, and Korea. Information gathered from these operations such as Japanese Encephalitis, Ross River Virus, malaria, bacterial dysentery, and other diseases significantly reduced the impact of disease among armed forces units and deployed personnel. NEPMU6 provided flawless support to maintain overall readiness of over 100,000 Navy, Marine Corps, joint service, foreign forces, and civilians worldwide, from initial planning to safe return of personnel.

This past year NEPMU6 stood up a rapid response Chemical and Biological Detection capabilities to handle chem/bio warfare situations in the Pacific AOR. Some of the biological capabilities were tested during two separate bioterrorist threats in Honolulu, in which the Unit assisted State of Hawaii authorities and the FBI with laboratory analysis of suspect materials.

In May the Unit deployed a 12-person, rapidly de-

ployable Preventive Medicine Threat Assessment Team to the joint-service, SEVENTH FLEET-lead EXERCISE Tandem Thrust 2001. The exercise took place in Australia involving over 20,000 U.S. personnel. The Preventive Medicine Team was commended by the Commanding Officer of the Australian 2<sup>nd</sup> Regimental Medical Battalion for outstanding preventive medicine support.

In addition, NEPMU6's Consolidated Industrial Hygiene Lab (CIHL) recently met all criteria for Laboratory Accreditation by the Commissions on Office Laboratory Accreditation (COLA), a national healthcare accreditation organization. Accreditation is given only to laboratories that apply rigid standards of quality in day-to-day operations, demonstrate continued accuracy in the performance of proficiency testing, and pass a rigorous on-site laboratory survey.

In the words of Captain Beecham, "The mission of NEPMU6 is to enhance the combat readiness of our forces and we do that through the efforts of our people. That's what I'm most proud of... our people and their professionalism."

Coming from U.S. Naval Hospital Rota, Spain as Director of the Aerospace Medicine Department, Captain Longstaff is very familiar with combat readiness. His first operational assignment as an Undersea Medical Officer (UMO) was as Medical Officer onboard the ballistic missile submarine USS MICHIGAN (SSBN 727)(GOLD) in 1984, where he earned both the Diving Medical Officer designation and the Submarine Warfare Medical Officer designation. In 1997, he was assigned as Senior Medical Officer on the aircraft carrier USS CONSTELLATION (CV-64). During this tour, he earned his Surface Warfare Medical Officer designation. Between 1984 and 1997, CAPT Longstaff served in a variety of distinguished assignments and received residency training in Occupational Medicine and Public Health and graduated as Flight Surgeon from the Flight Surgery Training Program at the Naval Operational Medicine Institute.

CAPT Longstaff's award's include the Navy Meritorious Service Medal with gold star, the Navy and Marine Corps Commendation Medal, the Navy and Marine Corps Achievement Medal, the Battle "E" Unit Commendation, the Coast Guard Unit Commendation, National Defense Service Medal, the Armed Forces Expeditionary Medal and the Sea Service Deployment Ribbon.

Fair Winds and Following Seas to CAPT Beecham as he serves his next tour of duty as Commanding Officer, Navy Medical Research Unit 2, Jakarta, Indonesia.

**LT Deidra M. Ramos**  
**HM2(SW) Derek Boyd, PAO**



## Hail & Farewell

### Welcome Aboard!

### Fair Winds & Following Seas!

NEPMU-2:

NEPMU-2:

NEPMU-5:

NEPMU-5:

NEPMU-6:

NEPMU-6:

NEPMU-7:

NEPMU-7:

### Safety Notes from COMSUBPAC Safety Officer

*(Continued from page 13)*

**NAVOSH support** in the Pacific is provided by Medical Service Corps Industrial Hygiene Officers stationed at Naval Medical Treatment Facilities (MTF) or Navy Environmental and Preventive Medicine Units (NEPMU). Points of contact are as follows:

Pearl Harbor: Shipyard Clinic, Industrial Hygiene (IH)  
Dept.(808)474-4242;  
NEPMU-6, IH Dept. (808)473-0555.

Bremerton: Branch Medical Clinic, IH Dept.  
(360)476-9381

San Diego: Naval Medical Center, Occ. Health Dept.  
(619)556-8847;  
NEPMU-5, IH Dept.(619) 556-7070

Yokosuka: U.S. Naval Hospital, IH Dept. DSN 243-7672/5925

Okinawa: U.S. Naval Hospital, IH Dept.  
DSN 643-7805/7617/7618

Guam: Naval Hospital, IH Dept. DSN 344-9545

USS FRANK CABLE (AS 40) Safety Dept.  
DSN 344-2242. Contact them for any  
safety or health questions or issues dealing with the NAVOSH instruction.

Please note that COMSUBPAC rmg 191634Z APR 01 canceled the requirement for SUBPAC afloat commands to send the names of their Safety and Environmental points of contact to the TYCOM. All Safety and Environmental points of contact at Squadron and Group level only, are requested to keep their e-mail addresses current by contacting Code N475, e-mail address [formisja@csp.navy.mil](mailto:formisja@csp.navy.mil).

## **Fleet Public Health**

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OFFICIAL BUSINESS**



*If the address is incorrect,  
please do not cover, Cross  
out, or in any way hide it, as  
this will make it impossible  
to correct the database.*



***Your October '01 issue!***